

Application No.: 09/663,265
Office Action Dated: February 14, 2006
Response to Office Action: April 28, 2006

REMARKS

In response to the non-final Office Action dated February 14, 2006, the Applicants hereby request reconsideration of the pending claims in light of the following.

STATUS OF CLAIMS

Claims 1-20 were pending.

Claims 1 and 17 are amended.

Accordingly, claims 1-20 are before the Examiner for consideration.

CLAIM AMENDMENTS

Claims 1 and 17 are amended, as set forth above, merely for stylistic purposes, e.g., to make it clearer that a single mobile station is being referred to. The amendments do not relate to substantive issues of patentability.

CLAIM REJECTIONS

In Sections 2 and 3 of the Office Action, claims 1-6, 8, 13, 17, and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,734,646 to I et al. ("the '646 patent") in view of U.S. Pat. No. 6,963,551 to Uebayashi et al. ("Uebayashi"). The Applicants respectfully traverse this rejection in light of the following remarks. In particular, the '646 patent and Uebayashi do not show or suggest all the elements and limitations recited in independent claims 1 and 17.

Present Invention

As set forth in the Response to Final Office Action dated December 6, 2005 (from which the following is taken largely verbatim), one embodiment of the present invention relates to a method for determining when to grant a mobile station access to a higher data transmission rate across a wireless network channel, such as an uplink or reverse link from the mobile station to a base station. Typically, the mobile station has already been granted access to the reverse link channel, and sends a request for a higher transmission rate, e.g., a request for a data burst rate or the like for the mobile station to send data at a higher rate than its current rate. Upon receipt of the request, the system calculates

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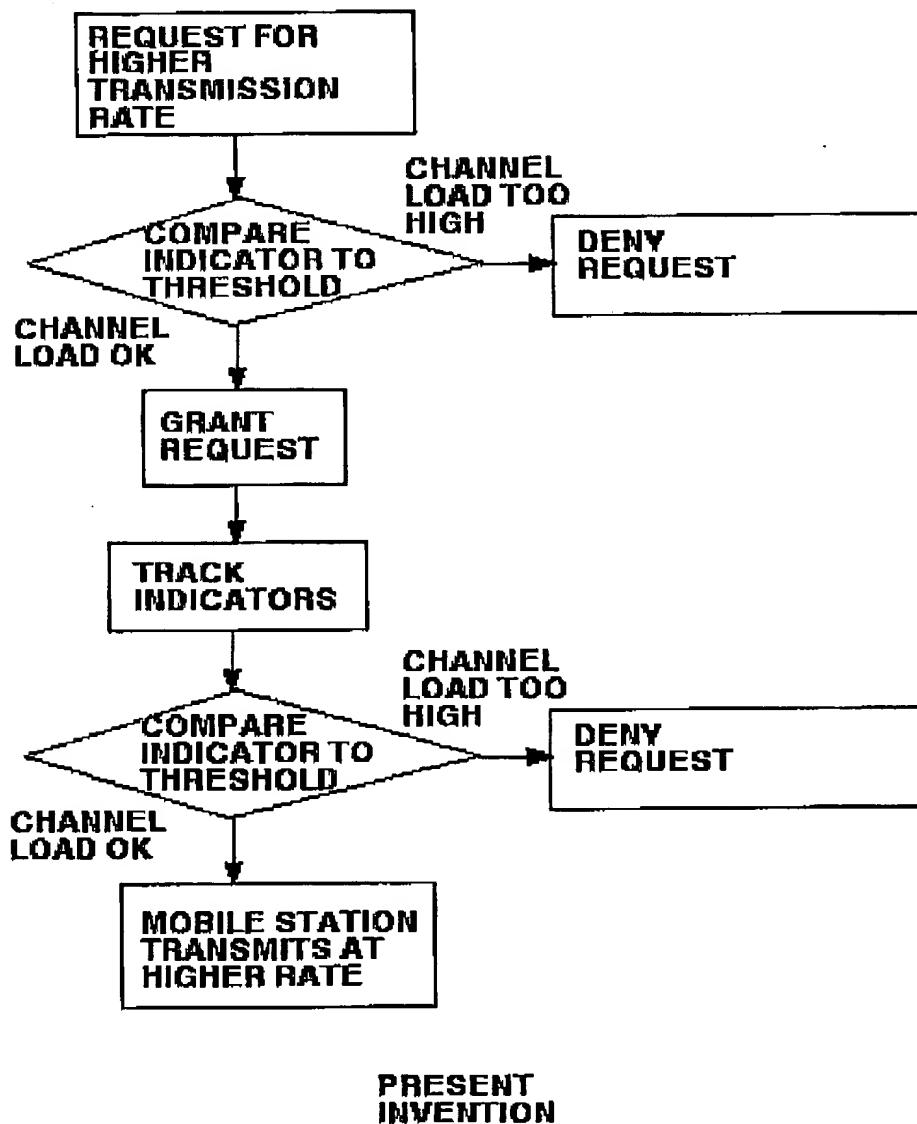
or otherwise determines at least one estimated performance indicator of the reverse link channel, taking into account the requested higher transmission rate. For example, the system may calculate an estimated loading level and / or estimated RSSI, not only in terms of current channel loading levels but also the additional loading that would occur if the mobile station were to transmit at the higher transmission rate.

Upon being granted access to the requested, higher transmission rate, the mobile station will not necessarily immediately commence transmission at the higher rate. If conditions on the reverse link channel change for the worse (e.g., a greater than estimated cumulative load), transmissions by the mobile station at the higher rate could negatively affect conditions on the reverse link channel, below a desired quality level. Also, if conditions on the reverse link channel change for the better (e.g., the loading from other mobile stations eases up), the mobile station could be transmitting at a rate lower than the highest possible rate satisfying desired quality levels. Accordingly, in one embodiment of the present invention, discussed in the present specification at Page 4, lines 8-24 and elsewhere, the system continues to track the estimated performance indicator(s) after the mobile station has been granted access to the higher transmission rate, but prior to the mobile station commencing transmissions at the higher rate. If the conditions worsen during this time, based on comparing the tracked indicators to the blocking threshold(s), the mobile station may be denied access to the higher transmission rate. (As should be appreciated, by "tracking" it is meant following the estimated performance indicators such as estimated loading and RSSI, including possible recalculations of the indicators taking into account current/changing network channel conditions.) If channel conditions improve during this time, the mobile station may be granted access to an even higher transmission rate.

Claim 1 was previously amended to specify that the indicator(s) are tracked after the mobile station is granted access to the higher transmission rate but before the mobile station transmits at the higher transmission rate, and that the mobile station may be denied access to the higher transmission rate (again, prior to commencing transmissions) based on a comparison of the tracked indicator to the blocking threshold. Claim 17 (newly added in the Response to Final Office Action dated December 6, 2005) contains similar limitations.

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Operation of this embodiment of the present invention is shown in the following flowchart:



The Uebayashi Patent

In the Office Action, the Examiner characterized Uebayashi as follows:

Uebayashi discloses a signal transmission method wherein a new communication request for a higher speed communication may be put on hold temporarily if the total number of communications is greater

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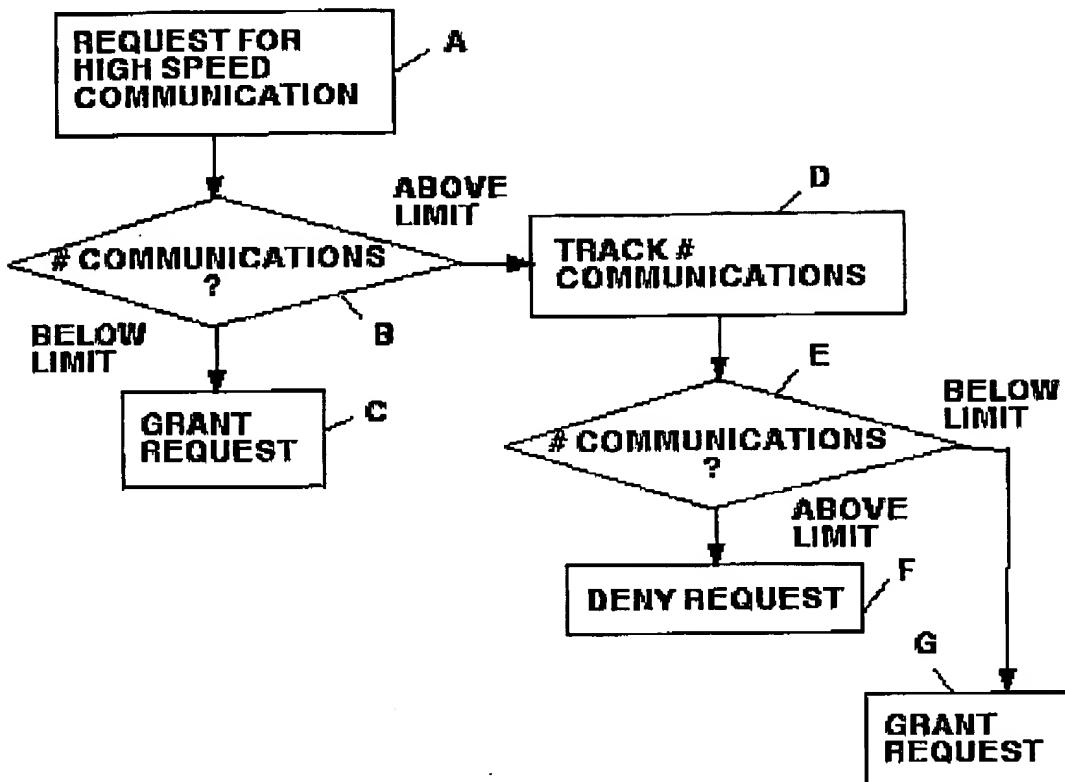
than a fixed value, while the request is accepted if the total number of communications transmitted simultaneously is less than or equal to a predetermined fixed value.

Uebayashi at Col. 2, lines 3-54. Generally speaking, the Applicants agree with this characterization. However, this summary does not fully describe how the Uebayashi system functions, which is actually very different from the present invention as characterized in the claims.

To elaborate, in Uebayashi a mobile station sends a new communication request for a high-speed communication, e.g., it is a new call, and not a request for a higher data rate in an existing call. Col. 2, lines 20-51. If the total number of communications (including the requested communication) is less than a predetermined limit, the request is granted, and the process ends. Col. 2, lines 9-12; Col. 2, lines 20-24; Col. 2, lines 32-37. If the total number of communications is above the limit, in one embodiment in Uebayashi the request is simply denied, resulting in a call loss, and the process ends. Col. 2, lines 12-16. Alternatively, instead of outright denying the request, the system in Uebayashi may be configured to hold the request and then grant the request if the total number of communications falls below the limit within the delay time allowed by the mobile station. Col. 2, lines 24-28; Col. 2, lines 43-51.

This process is shown in the flow chart below. At Step A, a mobile station requests a high-speed communication. At Step B, the total number of communications is checked, and if below the limit the request is granted at Step C. If above the limit, the number of communications is tracked at Step D. If they remain above the limit, as determined at Step E, the request is denied at Step F, resulting in a lost call. If the number of communications falls below the limit, the request is granted at Step G.

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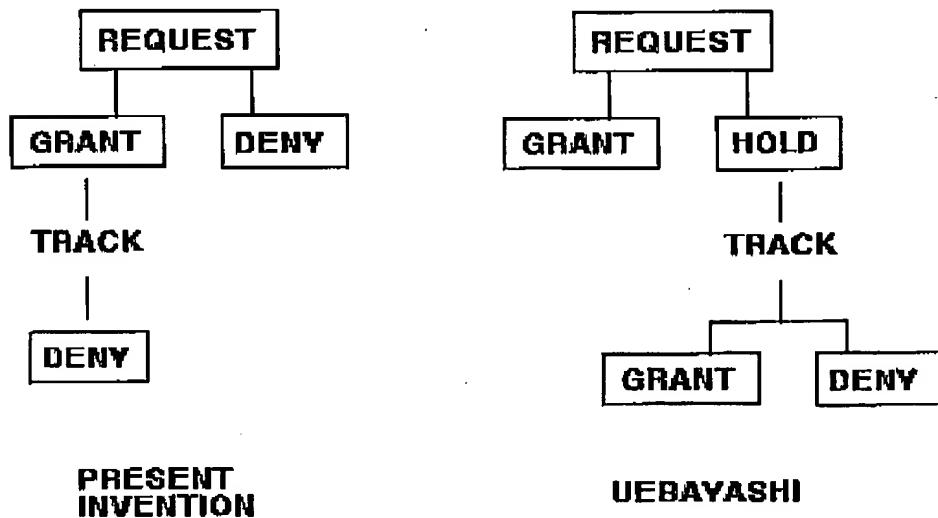
Differences Between Uebayashi and Present Invention

As should be appreciated, Uebayashi relates to (i) allowing a call request if channel conditions are acceptable, and (ii) if the conditions are such that the request would normally be denied, tracking channel indicators and allowing the request if the channel conditions improve. The present invention, on the other hand, relates to (i) allowing a request for a higher transmission rate if channel conditions are acceptable, but tracking the conditions before the mobile station actually transmits at the higher rate for purposes of denying / canceling the request if conditions deteriorate, and (ii) if the original channel conditions are unacceptable, denying the request for the higher transmission rate. Thus, Uebayashi relates to further steps after a call request is put on hold (but not allowed), for determining if channel conditions improve sufficiently to allow the call request, while the present invention relates to further steps after a request for

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a higher communication rate is actually allowed, for determining if the request should later be denied / cancelled if conditions deteriorate.

This difference can be seen by comparing the simplified flow diagrams presented below, for the present invention in the left hand view and Uebayashi in the right hand view. Note that only affirmative decision steps are shown, e.g., in the present invention a decision is made whether to deny / cancel the request based on tracked indicators, and if it is decided not to deny / cancel the request then no further action need be taken (since the request was previously allowed, there is no need to "re-allow" the request).



As the Examiner is aware, to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the references in combination must show or suggest each and every element/limitation of the invention as claimed. Here, independent claims 1 and 17 explicitly specify that if a mobile station is granted access to a higher transmission rate, the channel indicators are tracked prior to transmissions by the mobile station at the higher rate, and access to the higher transmission rate may be denied based on these tracked indicators. Uebayashi does not disclose such a method. Instead, in Uebayashi, if a request from a mobile station for a high-speed communication is granted, the process ends. The channel conditions are not further tracked. See, e.g., Step S310 in FIG. 3 and Step S610 in FIG. 6 – after the channel assignment, there are no tracking steps or the like. In other

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words, to the extent Uebayashi shows tracking a channel indicator, it is not done "if the mobile station is granted access to the higher transmission rate, prior to transmissions by the mobile station at the higher transmission rate," and with a subsequent step of determining whether to deny access to the higher transmission rate based on the tracked indicator(s), as specified in claims 1 and 17. Because neither Uebayashi nor the '646 patent disclose the steps as recited in claims 1 and 17, it is respectfully submitted that the Examiner has not established a prima facie case of obviousness under 35 U.S.C. § 103 as to these claims. Therefore, claims 1 and 17 are believed allowable.

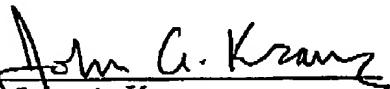
Claims 2-6, 8, and 13-16 depend from claim 1 and are believed allowable as depending from an allowable base claim. Claims 18-20 depend from claim 17 and are believed allowable as depending from an allowable base claim.

CONCLUSION

In view of the foregoing, it is respectfully submitted that pending claims 1-20 are in a condition for allowance and action to that effect is earnestly solicited.

No fees are believed due for the present Response. However, the Commissioner is authorized to charge any fees that may be required to Deposit Account No. 13-0235.

Respectfully submitted,

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